

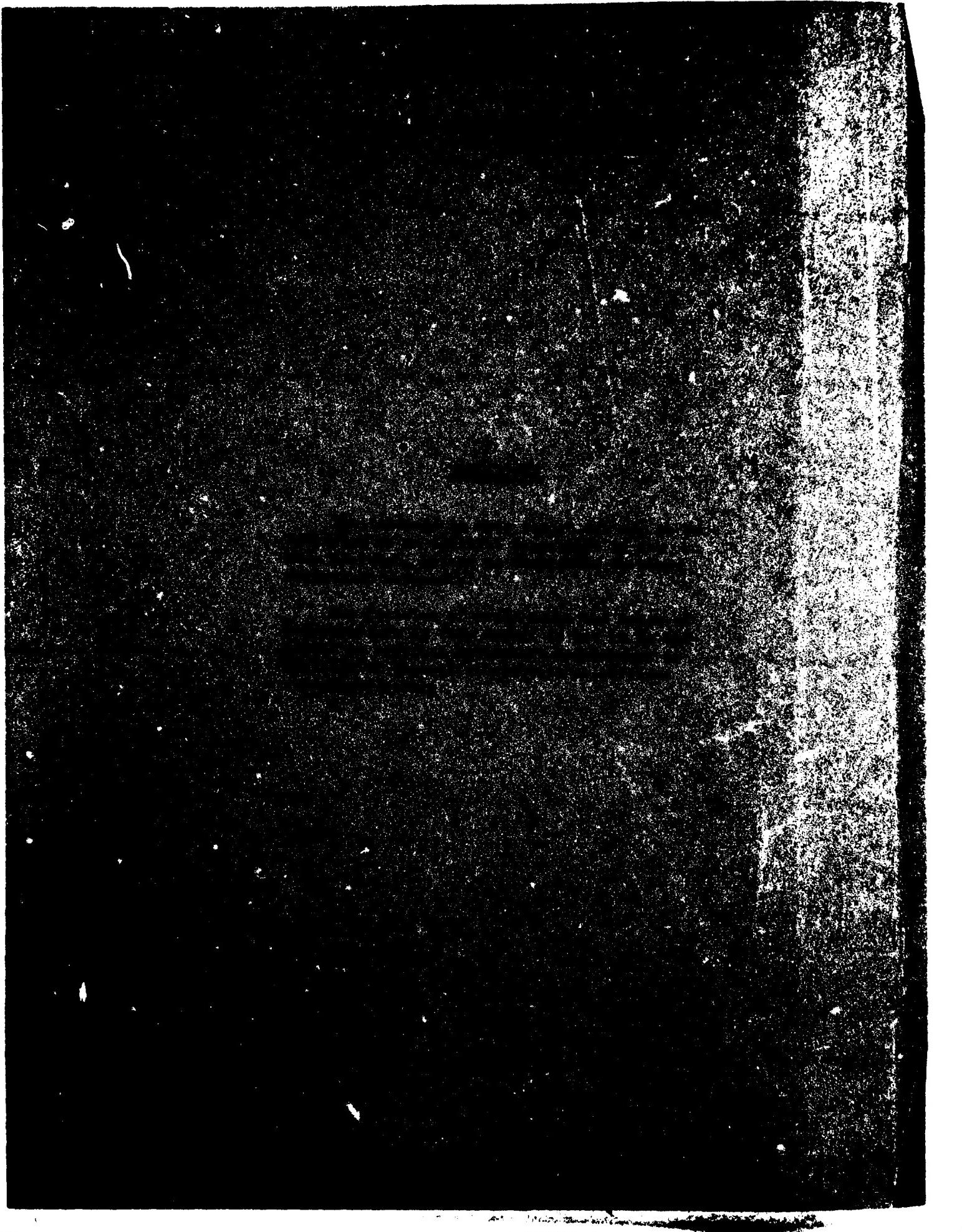
AD-A102 260 ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/6 4/2
19304D MLRS, MISSILE NUMBERS BK 001, V01-001, V01-002, ROUND NU--ETC(U)
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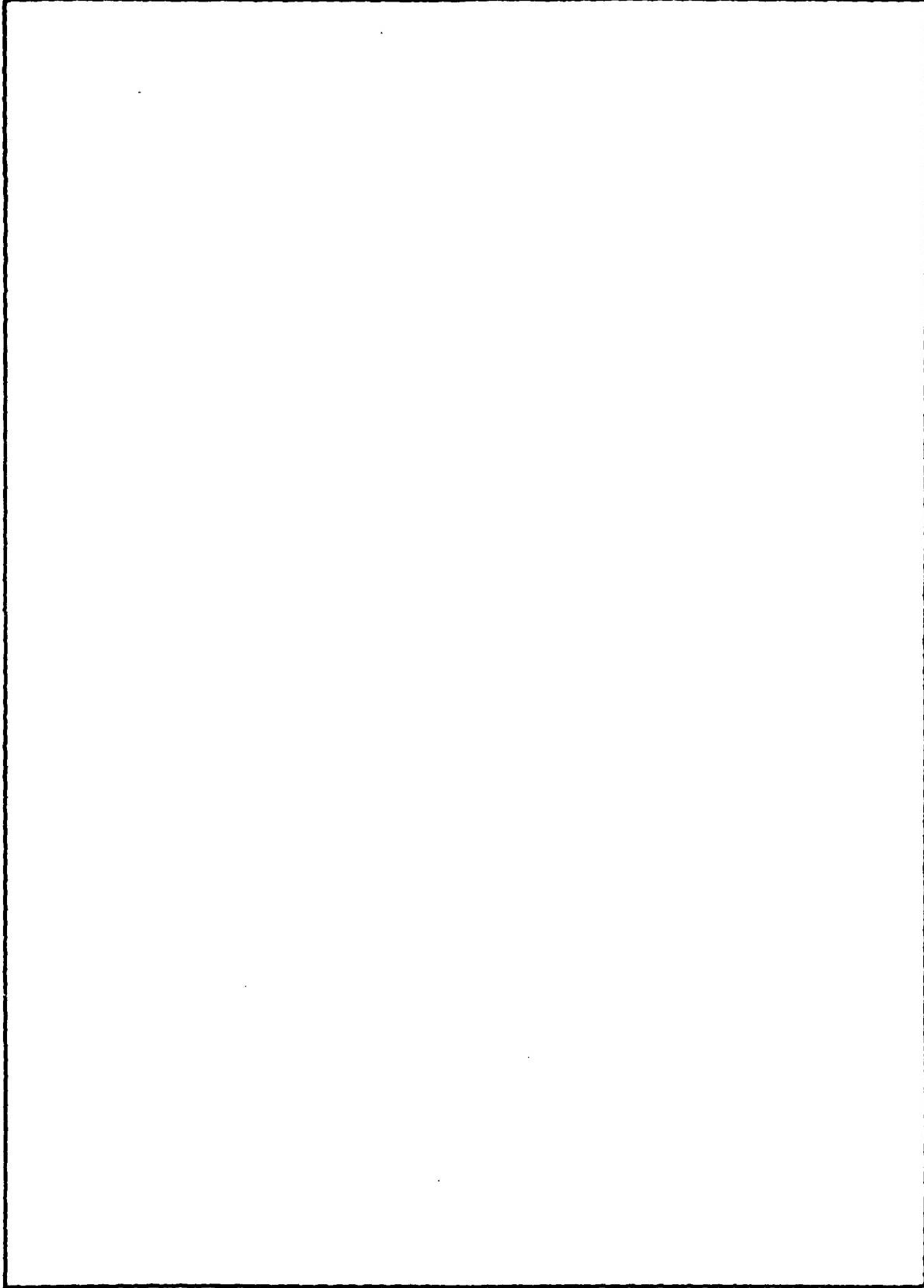
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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM		
1. REPORT NUMBER DR 1177	2. GOVT ACCESSION NO. AD-A202 260	3. RECIPIENT'S CATALOG NUMBER		
4. TITLE (and Subtitle) 19304D MLRS Missile No. BK 001, V01-001, V01-002, Round No. V-140/MD-7, V-141/MD-8, V-142/MD-9 Numbers		5. TYPE OF REPORT & PERIOD COVERED 10 Donald Z. Keller		
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18. SUPPLEMENTARY NOTES				
19. KEY WORDS (Continue on reverse side if necessary and identify by block number)				
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of the 19304D MLRS, Missile No. BK 001, V01-001, and V01-002, Round No. V-14-/MD-7, V-141/MD-8 and V-142/MD-9 presented in tabular form.				

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INTRODUCTION

19304D MLRS, Missile Numbers BK 001, V01-001, and V01-002, Round Numbers V-140/MD7, V-141/MD8, and V-142/MD9, were launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 1315:28, 1315:32, and 1315:37 MDT, 11 May 1981. The scheduled launch times were 1300, 1300:04, and 1300:09 MDT.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data was obtained by the following methods:

1. Observations

a. Surface

(1) Standard surface observations to include pressure, temperature (C), relative humidity, dew point (C), density (gm/m³), wind direction and speed, and cloud cover were made at the LC-33 Met Site at T-0 minutes.

(2) Anemometer data were provided from existing pole-mounted and tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

b. Upper Air

(1) Low level wind data were obtained from RAPTS T-9 pibal observation at:

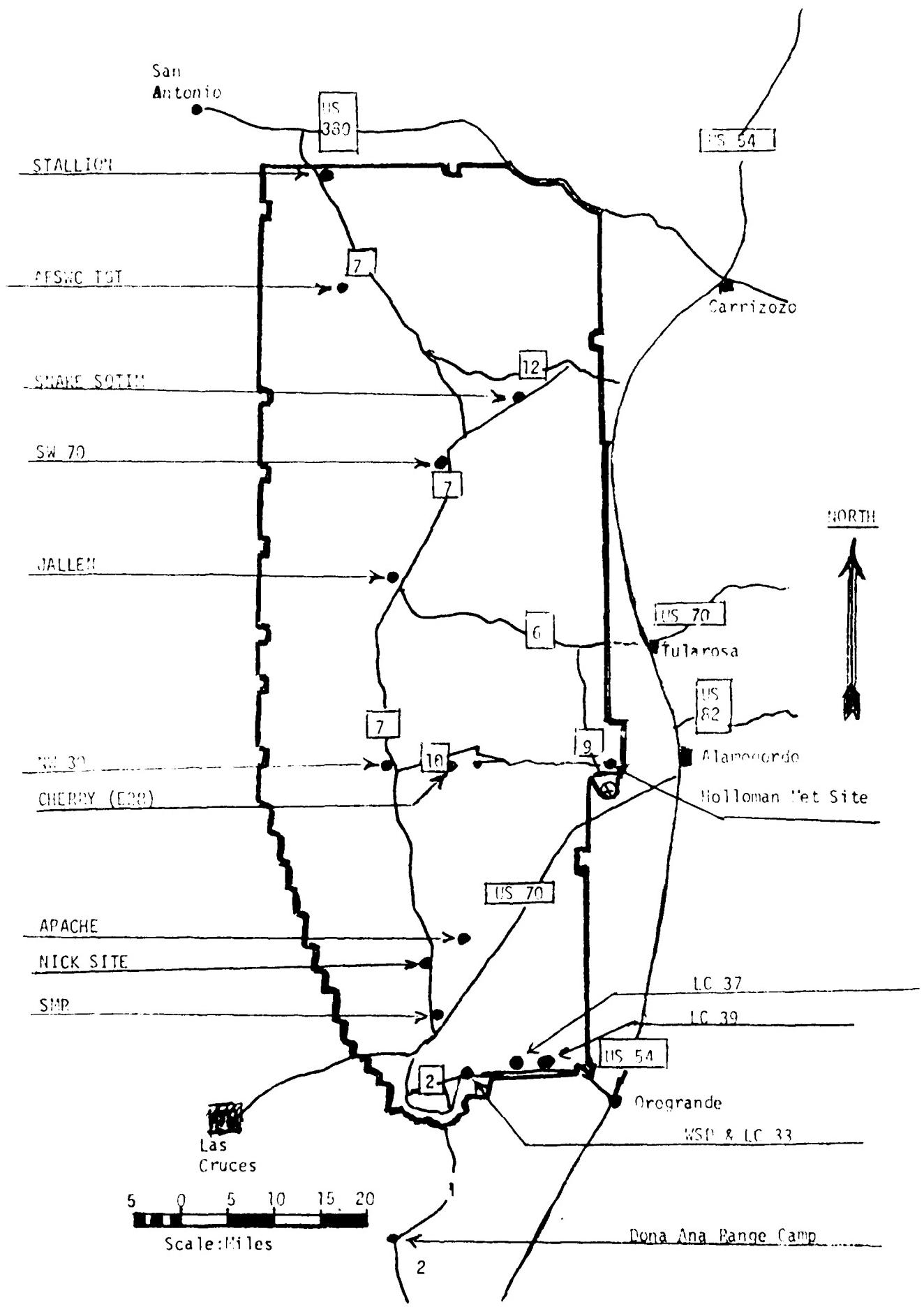
SITE AND ALTITUDE

LC-33	2 KM
NICK	2 KM

(2) Air structure data (rawinsonde) were collected at the following Met Sites:

SITE AND TIME

LC-37	1000 MDT
WSD	1100 MDT
LC-37	1200 MDT
LC-37	1300 MDT



PROJECT SURFACE OBSERVATION

TABLE I

STATION LC-33

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10

DEPENDENCIES

140

PSYCHOPERTHIC COMPLICATION

TIME:	1315		
DRY BULB TEMP.	27.8		
WET BULB TEMP.	14.9		
WET BULB DEPR.	12.9		
DEW POINT	6.4		
RELATIVE HUMID.	26		

TABLE 2 LC-33 FIXED POLE ANEMOMETER MEASUREMENTS

POLE #1			POLE #2			POLE #3		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
T-30	298	07	T-30	283	05	T	315	09
T-20	289	07	T-20	273	06	T	309	08
T-10	288	09	T-10	294	06	T	295	06
T _{0.0}	287	07	T _{0.0}	293	05	T	297	09
T+10	298	09	T+10	283	03	T+10	280	09

TABLE 3 LC-33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER)

LEVEL #1, 12 FEET X484,982.64, Y185,067.73, H3983.00 (base)			LEVEL #2, 62 FEET X484,982.64, Y185,067.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
T-30	300	06	T-30	290	10
T-20	315	06	T-20	286	10
T-10	314	09	T-10	292	11
T _{0.0}	293	08	T _{0.0}	287	11
T+10	275	07	T+10	277	10

LEVEL #3, 102 FEET X484,982.64, Y185,067.73, H3983.00 (base)			LEVEL #4, 142 FEET X484,982.64, Y185,067.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
T-30	288	09	T-30	291	10
T-20	282	10	T-20	281	10
T-10	278	10	T-10	251	12
T _{0.0}	275	09	T _{0.0}	264	11
T+10	268	09	T+10	260	09

TABLE 4

T-TIME PILOT-BALLOON TRAJECTORY DATA

DATE 11 May 1981

SITE: LC-33

TIME: 1315 MDT

WSTM COORDINATES:

X= 485,135.76

Y= 185,919.24

Z= 3988.57

SITE: NICK

TIME: 1315 MDT

WSTM COORDINATES:

X= 470,734.56

Y= 255,775.64

Z= 4126.57

LAYER	MINPOINT METERS AGL	DIRECTION DEGREES	SPEED EVS/SEC
SURFACE	290	08	
150	282	13	
210	273	18	
270	272	19	
330	273	18	
390	269	16	
450	258	14	
510	276	10	
570	262	16	
630	254	18	
690	252	17	
750	252	19	
810	254	21	
870	254	23	
930	261	23	

LAYER	MINPOINT METERS AGL	DIRECTION DEGREES	SPEED EVS/SEC
SURFACE	229	03	
160	252	08	
210	255	10	
270	257	12	
330	258	13	
390	258	14	
450	256	14	
510	255	13	
570	258	11	
630	263	10	
690	274	08	
750	276	09	
810	272	11	
870	271	11	
930	263	10	

Data obtained from
RAPTS T-9 radar
Tracked Pilot-Balloon

Data obtained from
Single Theodolite
Tracked Pilot-Balloon

AIMING AND T-TIME COMPUTER MET MESSAGES
11 May 1981

LC-37 1000 MDT	WSD 1100 MDT	LC-37 1200 MDT
METCM1324063	METCM1324064	METCM1324063
111600124877	111700122878	111800124876
00284006 29510877	00284009 29940878	00320006 30080876
01324008 29220866	01295012 29760868	01334008 29770866
02349009 29080841	02320010 29410843	02339010 29460841
03483014 28870803	03465011 28940805	03363011 29100803
04497022 28500765	04501021 28570758	04453012 28620757
05502024 28030712	05500026 28140714	05451018 28140713
06489021 27630670	06495023 27730672	06479018 27650670
07479023 27280629	07490022 27300632	07484032 27250630
08474023 26900591	08503025 26920593	08489030 26940592
09462025 26520555	09486027 26600557	09469035 26710555
10469029 26190520	10466032 26390522	10468032 26390521
11466030 25810487	11473033 25950489	11473036 25980488

LC-37 1300 MDT
 METCM1324063
 111900124875
 00462010 30210875
 01503031 29930865
 02502017 29640840
 03501018 29250802
 04473015 28740756
 05441014 28260712
 06458018 27760670
 07461016 27270630
 08471030 26830592
 09501035 26580555
 10488032 26270520
 11476035 25870488

STATION ALTITUDE 4051.37 FEET MSL
11 MAY 81 1000 IRS MDT
ASCENSION NO. 79

SIGNIFICANT LEVEL DATA
1310180079
LC-37
TABLE 6

ELEVATION COORDINATES
32°40'17" LAT UTG
106°31'23" LONG UTG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE DEGREES CENTIGRADE	AIR DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT
76.5	4051.4	21.0	3.2	31.0
373.1	4161.2	18.5	2.4	34.0
350.6	4913.3	16.6	1.9	37.0
334.7	5421.4	16.9	.1	52.0
325.1	5744.8	16.5	-1.1	30.0
773.4	7540.1	12.8	-9.6	20.0
700.0	10251.9	5.4	-13.5	24.0
643.0	12511.7	.6	-19.2	21.0
617.2	13587.2	-1.7	-19.6	24.0
533.6	17333.4	-10.3	-28.9	20.0
525.6	17715.8	-10.5	-29.0	<0.0
500.0	18972.7	-13.3	-31.4	20.0
411.9	23701.3	-26.7	-38.1	33.0
400.0	24396.1	-27.8	-38.2	36.0
382.6	25443.1	-30.1	-38.8	42.0
368.8	26301.0	-31.7	-38.8	49.0
348.6	27602.5	-35.3	-41.8	51.0
329.3	28900.2	-38.4	-46.0	44.0
316.4	29801.1	-40.3	-48.6	40.0
310.4	30229.9	-41.5	-49.7	40.0
300.0	30787.3	-43.9		

STATION ALTITUDE 4050.37 FEET MSL
11 MAY 81
ASCENSION NO. 79

UPPER AIR DATA
1310180074
LC-37

TABLE 7

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CURIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREE(S) NM	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
4051.4	870.5	21.0	3.2	31.0	1034.6	669.3	160.0	6.0	1.000264
4500.0	862.6	17.6	2.2	35.4	1030.2	665.4	186.7	4.9	1.000262
5000.0	847.4	16.7	1.6	36.1	1015.5	664.2	221.5	5.3	1.000257
5500.0	832.4	16.8	-0.2	31.5	997.3	664.3	244.0	7.1	1.000249
6000.0	817.5	16.0	-2.2	28.6	982.7	663.2	258.1	9.7	1.000242
6500.0	802.9	14.9	-4.5	25.8	968.9	661.9	268.9	13.4	1.000236
7000.0	780.6	13.9	-6.8	23.0	955.3	660.6	274.8	17.0	1.000230
7500.0	774.5	12.9	-9.4	20.2	941.9	659.4	277.9	19.0	1.000224
8000.0	760.4	11.5	-10.2	20.7	929.2	657.8	280.4	21.0	1.000220
8500.0	746.6	10.2	-10.9	21.4	916.7	656.2	282.0	22.6	1.000217
9000.0	733.0	8.8	-11.6	22.2	904.4	654.6	283.0	23.9	1.000213
9500.0	719.6	7.5	-12.4	22.9	892.3	653.0	282.1	24.2	1.000210
10000.0	706.5	6.1	-13.1	23.6	880.4	651.4	280.8	23.9	1.000207
10500.0	693.0	4.9	-14.1	23.7	866.0	649.9	278.1	22.1	1.000203
11000.0	680.6	3.8	-15.4	23.0	855.2	648.7	275.9	21.6	1.000200
11500.0	667.9	2.7	-16.6	22.3	842.6	647.4	274.6	22.4	1.000196
12000.0	655.5	1.7	-17.9	21.7	830.1	646.1	273.4	24.1	1.000192
12500.0	643.3	.6	-19.1	21.0	817.9	644.9	272.3	26.4	1.000189
13000.0	631.2	-4	-19.3	22.4	805.6	643.0	270.8	24.4	1.000186
13500.0	619.3	-1.5	-19.5	23.8	793.5	642.3	268.9	21.4	1.000183
14000.0	607.4	-2.6	-20.6	23.6	781.6	641.0	268.2	19.5	1.000180
14500.0	595.7	-3.8	-21.8	23.0	769.9	639.6	260.1	20.2	1.000177
15000.0	584.2	-4.9	-23.1	22.5	758.4	638.2	263.5	23.4	1.000174
15500.0	573.0	-6.1	-24.3	22.0	747.0	636.8	261.1	24.9	1.000171
16000.0	562.0	-7.2	-25.6	21.4	735.9	635.4	258.8	26.0	1.000168
16500.0	551.2	-8.4	-26.8	20.9	724.9	634.1	259.0	26.4	1.000165
17000.0	540.6	-9.5	-28.0	20.4	714.0	632.7	259.2	26.9	1.000162
17500.0	530.1	-10.4	-29.0	20.0	702.5	631.6	250.1	27.9	1.000160
18000.0	519.7	-11.1	-20.6	20.0	690.7	630.7	261.0	28.4	1.000157
16500.0	509.5	-12.2	-30.5	20.0	680.0	629.4	262.7	29.2	1.000154
19000.0	499.4	-13.4	-31.4	20.1	669.5	628.0	263.8	29.7	1.000152
19500.0	489.3	-14.8	-32.0	21.4	659.6	626.3	263.4	30.2	1.000149
20000.0	479.4	-16.2	-32.5	22.8	649.8	624.6	262.8	30.8	1.000147
20500.0	469.7	-17.6	-33.2	24.2	640.1	622.8	262.2	31.0	1.000145
21000.0	460.1	-19.0	-33.8	25.6	630.6	621.1	261.0	32.2	1.000142
21500.0	450.8	-20.5	-34.5	26.9	621.3	619.4	261.2	32.8	1.000140
22000.0	441.6	-21.9	-35.3	28.3	612.2	617.0	262.0	33.4	1.000138
22500.0	432.7	-23.3	-36.1	29.7	603.1	615.9	263.1	34.1	1.000136
23000.0	423.9	-24.7	-36.9	31.1	594.3	614.1	264.0	35.3	1.000134
23500.0	415.3	-26.1	-37.7	32.4	585.5	612.4	265.2	36.7	1.000132

WT 001116 COORDINATES
32°40'17.5 LAT deg
106°31'23.2 LONG deg

STATION ALTITUDE 4051.37 FEET MSL
 11 MAY 81 1000 IRS MDT
 ASCENSION NO. 79

UPPER AIR DATA
 1310180079
 LC-37

TABLE 7 CONT'

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CURIC METERS	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TD)	INDEX OF REFRACTION
24000.0	400.7	-27.2	-38.1	575.9	611.1	266.2	.38.0
24500.0	398.2	-28.0	-38.2	565.9	610.0	266.3	.40.9
25000.0	384.9	-29.1	-38.5	556.5	608.6	266.7	.42.6
25500.0	381.7	-30.2	-38.8	547.2	607.3	265.9	.43.9
26000.0	373.6	-31.1	-38.8	537.0	606.1	263.7	.44.8
26500.0	365.6	-32.3	-39.3	528.6	604.7	262.4	.45.2
27000.0	357.8	-33.6	-40.4	520.3	603.0	261.6	.45.2
27500.0	350.1	-35.0	-41.6	512.1	601.2	260.5	.44.3
28000.0	342.6	-36.2	-43.1	503.7	599.7	260.5	.43.3
28500.0	335.1	-37.4	-44.7	495.3	598.1	260.1	.45.1
29000.0	327.8	-38.6	-46.3	486.9	596.7	260.4	.47.0
29500.0	320.7	-39.7	-47.7	478.4	595.3	265.9	.49.2
30000.0	313.6	-40.9	-49.1	470.3	593.8		
30500.0	306.7	-42.4	-50.2	462.8	591.9		

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

GEOMETRIC COORDINATES
 32.40175 LAT LEG
 106.31252 LON LEG

STATION ALTITUDE 4051.37 FEET MSL
11 MAY 81
1000 hrs PDT
ASCENSION NO. 79

MANDATORY LEVELS
1310180079
LC-37
TABLE 8

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LONG DEG

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	REL.HUM. PERCENT	WIND DATA DIRECTION DEGREES (TN)	WIND SPEED KNOTS
850.0	4910.	16.6	1.9	37.	215.9
800.0	6600.	14.7	-4.9	25.	270.4
750.0	8376.	10.5	-10.7	21.	281.6
700.0	10242.	5.4	-13.5	24.	279.5
650.0	12213.	1.2	-18.4	21.	272.9
600.0	14307.	-3.4	-21.4	23.	267.3
550.0	16543.	-8.5	-26.9	21.	19.1
500.0	18946.	-13.3	-31.4	20.	259.0
450.0	21541.	-20.6	-34.6	27.	263.8
400.0	24356.	-27.8	-38.2	36.	261.2
350.0	27461.	-35.0	-41.6	51.	32.8
300.0	30926.	-43.9		263.3	40.5

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.00 FEET MSL
11 MAY 81 1100 hrs MDT
ASCENSION NO. 352

SIGNIFICANT LEVEL DATA
1310020332
WHITE SANDS
TABLE 9

GEODETIC COORDINATES
32°40'04.3 LAT DEG
106°37'03.3 LONG DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT
177.8	3989.0	24.8	36.0
550.0	4908.5	20.7	25.0
700.0	10277.5	6.7	21.0
630.8	13047.1	-7	27.0
612.8	13805.3	-2.0	26.0
560.6	16104.9	-8.2	34.0
551.6	16518.8	-7.3	18.0
542.3	16931.2	-6.7	18.0
500.0	19016.8	-12.5	18.0
429.0	22789.1	-22.6	27.0
400.0	24465.5	-26.7	24.0
316.6	29879.1	-39.3	30.0
300.0	31085.8	-42.3	
250.0	35064.5	-51.5	
233.2	36541.0	-54.8	
200.0	39751.0	-58.3	
187.4	41098.9	-58.8	
178.0	42166.2	-57.8	
169.4	43192.4	-59.2	
150.0	45705.0	-59.2	
140.2	47101.4	-59.1	
114.8	51189.0	-63.8	
101.2	53752.0	-61.8	
100.0	53996.6	-60.3	
89.2	56365.5	-57.1	
75.0	59339.7	-62.8	
70.0	61144.2	-62.5	
67.2	62181.6	-59.6	
62.0	63841.4	-60.6	
50.0	68314.2	-55.9	

STATION ALTITUDE 3989.00 FE. T MSL
11 MAY 81 1100 IRS MDT
ASCENSION NO. 532

UPPER AIR DATA
1310020532
WHITE SANDS
TABLE 10

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	AIR DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOBS	DIRECTION DEGREES (TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
3989.0	877.8	24.8	8.7	36.0	1021.3	674.1	160.0	8.9	1.000276
4000.0	877.5	24.8	8.6	35.9	1021.1	674.0	160.3	8.9	1.000275
4500.0	862.2	22.5	4.0	29.9	1012.3	671.1	175.8	7.5	1.000261
5000.0	847.2	20.5	-2.2	24.9	1002.5	668.4	196.3	6.8	1.000250
5500.0	832.0	19.2	-1.6	24.6	989.1	666.9	218.0	7.1	1.000245
6000.0	817.1	17.9	-2.9	24.2	975.9	665.3	239.9	8.4	1.000240
6500.0	802.5	16.5	-4.2	23.8	962.9	663.8	263.1	11.7	1.000235
7000.0	788.1	15.2	-5.5	23.4	950.1	662.2	273.6	15.5	1.000230
7500.0	774.0	13.9	-6.8	23.1	937.5	660.7	278.0	18.4	1.000226
8000.0	760.1	12.6	-8.1	22.7	925.0	659.1	280.2	20.6	1.000221
8500.0	746.5	11.3	-9.4	22.3	912.7	657.6	280.4	22.1	1.000217
9000.0	733.1	10.0	-10.7	22.0	900.6	656.0	280.9	23.6	1.000213
9500.0	720.0	8.7	-12.0	21.6	888.6	654.5	280.7	25.1	1.000210
10000.0	707.1	7.4	-13.3	21.2	876.9	652.9	280.0	25.3	1.000206
10500.0	694.2	6.1	-14.3	21.5	865.0	651.4	279.3	25.3	1.000203
11000.0	681.2	4.8	-14.8	22.6	853.0	649.8	279.0	23.8	1.000200
11500.0	668.6	3.4	-15.4	23.6	841.2	648.2	277.9	22.4	1.000197
12000.0	656.1	2.1	-16.0	24.7	829.6	646.7	274.2	21.0	1.000194
12500.0	643.9	.8	-16.6	25.8	818.1	645.1	273.6	20.8	1.000191
13000.0	631.9	-6	-17.3	26.9	806.9	643.5	275.8	21.6	1.000188
13500.0	620.0	-1.5	-18.3	26.4	794.3	642.4	281.2	22.8	1.000184
14000.0	608.2	-2.5	-19.0	26.7	782.3	641.2	284.7	23.8	1.000181
14500.0	596.5	-3.9	-19.5	28.4	771.1	639.5	283.1	23.9	1.000179
15000.0	585.1	-5.2	-20.0	30.2	760.1	637.9	281.3	25.0	1.000176
15500.0	573.9	-6.6	-20.5	31.9	749.4	636.3	278.8	26.3	1.000173
16000.0	562.9	-7.9	-21.4	33.6	738.7	634.7	275.3	28.0	1.000171
16500.0	552.0	-7.3	-27.1	18.7	723.1	635.3	270.4	29.5	1.000165
17000.0	541.3	-6.9	-27.2	18.0	707.9	635.8	265.1	31.1	1.000161
17500.0	530.8	-8.3	-28.3	18.0	697.8	634.2	263.6	31.4	1.000159
18000.0	520.4	-9.7	-29.5	18.0	687.8	632.5	262.3	31.8	1.000156
18500.0	510.3	-11.1	-30.6	18.0	678.0	630.8	263.6	32.2	1.000154
19000.0	500.3	-12.5	-31.8	18.0	668.4	629.1	264.9	32.5	1.000151
19500.0	490.3	-13.8	-32.3	19.2	656.3	627.5	265.6	33.2	1.000149
20000.0	480.4	-15.1	-32.8	20.3	648.5	625.9	266.2	33.9	1.000147
20500.0	470.8	-16.5	-33.5	21.5	638.8	624.2	265.6	34.3	1.000144
21000.0	461.3	-17.8	-33.9	22.7	629.2	622.6	264.9	34.7	1.000142
21500.0	452.0	-19.1	-34.6	23.9	619.8	621.0	265.0	34.6	1.000140
22000.0	443.0	-20.5	-35.3	25.1	610.6	619.3	265.2	34.5	1.000138
22500.0	434.1	-21.8	-36.0	26.3	601.5	617.7	267.1	34.4	1.000136
23000.0	425.2	-23.1	-37.0	26.6	592.3	616.1	269.2	34.5	1.000133

STATION ALTITUDE 3989.00 FEET MSL
11 MAY 81 1100 HRS MDT
ASCENSION NO. 332

UPPER AIR DATA
1310020332
WHITE SANDS
TABLE 10 CON'T

GEODETIC COORDINATES
32°40.043 LAT DEG
106.37033 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	AIR DENSITY GM/CUBIC METER	REL HUM. PERCENT	SPEED OF SOUND KNOTS	DIRECTION DEGREES (TN)	INDEX OF REFRACTION
23500.0	410.5	-24.3	-38.4	25.7	583.0	614.6	271.6
24000.0	407.8	-25.6	-39.8	24.8	573.8	613.1	273.3
24500.0	399.4	-26.8	-41.1	24.0	564.7	611.5	273.8
25000.0	390.9	-27.9	-41.9	24.6	555.2	610.1	274.0
25500.0	382.5	-29.1	-42.8	25.1	546.0	608.6	273.7
26000.0	374.3	-30.3	-43.6	25.7	536.9	607.2	272.9
26500.0	366.3	-31.4	-44.4	26.3	527.9	605.7	271.6
27000.0	358.5	-32.6	-45.2	26.8	519.2	604.3	270.4
27500.0	350.9	-33.8	-46.1	27.4	510.5	602.8	269.4
28000.0	343.4	-34.9	-46.9	27.9	502.1	601.3	268.4
28500.0	336.0	-36.1	-47.8	28.5	493.8	599.9	267.9
29000.0	328.9	-37.3	-48.6	29.0	485.6	598.4	267.5
29500.0	321.8	-38.4	-49.5	29.6	477.6	596.9	266.9
30000.0	314.9	-39.6	-51.3	27.0**	469.7	595.4	264.2
30500.0	307.9	-40.8	-57.5	14.6**	461.8	593.8	263.9
31000.0	301.2	-42.0	-72.3	2.1**	454.0	592.2	264.0
31500.0	294.4	-43.3			446.1	590.7	264.4
32000.0	287.7	-44.4			438.2	589.2	264.7
32500.0	281.2	-45.6			430.4	587.7	264.5
33000.0	274.8	-46.7			422.8	586.2	264.2
33500.0	268.6	-47.9			415.3	584.7	264.5
34000.0	262.5	-49.0			408.0	583.2	265.3
34500.0	256.6	-50.2			400.9	581.7	266.0
35000.0	250.7	-51.4			393.8	580.2	266.5
35500.0	244.9	-52.5			386.6	578.7	267.0
36000.0	239.2	-53.6			379.6	577.3	267.1
36500.0	233.7	-54.7			372.6	575.8	267.0
37000.0	228.1	-55.3			364.8	573.0	267.1
37500.0	222.7	-55.8			357.1	574.3	267.5
38000.0	217.5	-56.4			349.5	573.6	267.8
38500.0	212.3	-56.9			342.1	572.8	268.3
39000.0	207.3	-57.5			334.9	572.1	268.8
39500.0	202.4	-58.0			327.8	571.4	269.2
40000.0	197.6	-58.4			320.5	570.9	269.6
40500.0	192.9	-58.6			313.2	570.7	269.7
41000.0	188.3	-58.8			306.0	570.4	269.6
41500.0	183.8	-58.4			298.2	570.9	269.4
42000.0	179.4	-58.0			290.5	571.5	268.9
42500.0	175.2	-58.3			283.9	571.1	269.4
43000.0	171.0	-58.9			278.1	570.2	267.8

** AT LAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.00 FEET MSL
 11 MAY 81 11 On hrs EDT
 ASCENSION NO. 332

UPPER AIR DATA
 1310020332
 WHITE SANDS
 TABLE 10 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES C	DEMPNT CINTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (IN)	WIND SPEED KNOTS	INDEX OF REFRACTION
43500.0	160.9	-59.2			271.7	569.8	267.4	64.8	1.000061
44000.0	162.9	-59.2			265.3	569.8	267.0	62.5	1.000059
44500.0	159.0	-59.2			258.9	569.8	260.8	60.7	1.000058
45000.0	156.2	-59.2			252.7	569.8	266.5	59.2	1.000056
45500.0	151.5	-59.2			246.7	569.8	260.3	57.6	1.000055
46000.0	147.9	-59.2			240.8	569.9	266.1	56.3	1.000054
46500.0	144.3	-59.1			235.0	569.9	265.9	55.0	1.000052
47000.0	140.9	-59.1			229.3	570.0	265.8	53.7	1.000051
47500.0	137.5	-59.6			224.2	569.4	265.9	52.4	1.000050
48000.0	134.2	-60.1			219.4	568.6	260.0	51.1	1.000049
48500.0	130.9	-60.7			214.7	567.8	260.7	49.8	1.000048
49000.0	127.6	-61.3			210.1	567.1	267.6	48.6	1.000047
49500.0	124.7	-61.9			205.6	566.3	268.5	47.3	1.000046
50000.0	121.7	-62.4			201.2	565.5	269.5	46.0	1.000045
50500.0	118.7	-63.0			196.8	564.7	270.7	44.7	1.000044
51000.0	115.9	-63.6			192.6	564.0	271.2	43.9	1.000043
51500.0	113.1	-63.6			187.9	564.0	271.4	43.3	1.000042
52000.0	110.3	-63.2			183.0	564.5	271.7	42.5	1.000041
52500.0	107.6	-62.8			178.2	565.1	272.6	40.3	1.000040
53000.0	105.0	-62.4			173.6	565.6	273.6	38.2	1.000039
53500.0	102.5	-62.0			169.0	566.1	275.0	35.0	1.000038
54000.0	100.0	-60.3			163.6	568.4	277.0	31.0	1.000036
54500.0	97.6	-59.6			159.2	569.3	279.7	27.0	1.000035
55000.0	95.3	-58.9			154.9	570.2	278.3	24.1	1.000035
55500.0	93.0	-58.3			150.8	571.1	276.6	21.2	1.000034
56000.0	90.8	-57.6			146.7	572.0	273.0	19.2	1.000033
56500.0	88.6	-57.3			143.0	572.3	267.0	18.5	1.000032
57000.0	86.5	-58.1			140.1	571.3	260.7	17.9	1.000031
57500.0	84.4	-58.9			137.3	570.2	257.6	18.9	1.000031
58000.0	82.4	-59.7			134.5	569.2	255.2	20.1	1.000030
58500.0	80.4	-60.5			131.8	568.1	253.3	21.1	1.000029
59000.0	78.5	-61.3			129.1	567.0	252.8	21.7	1.000029
59500.0	76.6	-62.1			126.5	566.0	252.3	22.3	1.000028
60000.0	74.8	-62.8			123.8	565.0	252.3	22.7	1.000028
60500.0	73.0	-62.7			120.8	565.2	255.7	21.4	1.000027
61000.0	71.2	-62.6			117.8	565.3	259.6	20.1	1.000026
61500.0	69.5	-62.0			114.6	566.2	263.8	19.0	1.000026
62000.0	67.8	-60.2			110.9	568.5	265.4	18.7	1.000025
62500.0	66.2	-59.8			108.0	569.0	267.1	18.3	1.000024
63000.0	64.6	-60.1			105.6	568.6	267.7	16.6	1.000024

STATION ALTITUDE 3989.00 FEET MSL
11 MAY 81 1100 HRS MDT
ASCENSION NO. 33:

UPPER AIR DATA
131002Z
WHITE SANDS
TABLE 10 CON'T

GEODETIC COORDINATES
32°40'04.3" LAT DEG
106°37'33" LON DEG

SEALEVEL ALITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	AIR DEWPPOINT CENTIGRADE	REL.HUM. PERCENT	GM/CUBIC METER KNOTS	SPEED OF SOUND DEGREES (IN) KNOTS	DIRECTION DEGREES (IN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
03500.0	63.0	-60.4			103.2	568.2	264.2	11.6	1.000023
04000.0	61.5	-60.4			100.8	568.2	255.5	6.7	1.000022
04500.0	60.1	-59.9			98.1	568.9	229.8	2.9	1.000022
05000.0	59.6	-59.4			95.6	569.6	146.5	2.1	1.000021
05500.0	57.2	-58.9			93.1	570.3	120.2	4.8	1.000021
06000.0	55.9	-58.3			90.6	571.0	120.2	4.3	1.000020
06500.0	54.6	-57.6			88.3	571.7	164.4	3.0	1.000020
07000.0	53.3	-57.3			86.0	572.4			1.000019
07500.0	52.0	-56.6			83.7	573.1			1.000019
08000.0	50.8	-56.2			81.5	573.8			1.000018

STATION ALTITUDE 3989.60 FEET MSL
 11 MAY 81 100 IRS MBT
 ASCENSION NO. 352

MANDATORY LEVELS
 1310020332
 WHITE SANDS
 TABLE 11

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE DEGREES CENTIGRADE	AIR DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	WIND DATA DIRECTION DEGREES(TN)	WIND SPEED KNOTS
850.0	4905.	20.7	-0.0	25.	192.2	6.8
800.0	6608.	16.3	-4.4	24.	266.5	12.7
750.0	8392.	11.7	-9.1	22.	280.7	21.8
700.0	10267.	6.7	-14.0	21.	279.6	25.3
650.0	12244.	1.4	-16.3	25.	272.4	20.4
600.0	14338.	-3.5	-19.3	28.	283.2	23.9
550.0	16572.	-7.2	-27.4	18.	269.4	29.7
500.0	18990.	-12.5	-31.8	18.	264.9	32.5
450.0	21595.	-19.4	-34.7	24.	265.0	34.6
400.0	24425.	-26.7	-41.1	24.	273.7	38.1
350.0	27541.	-33.9	-46.2	27.	269.2	46.4
300.0	31024.	-42.3			264.0	50.2
250.0	34988.	-51.5			266.5	66.7
200.0	39656.	-58.3			269.4	65.9
175.0	42412.	-58.3			268.4	68.5
150.0	45582.	-59.2			266.2	57.1
125.0	49318.	-61.8			268.3	47.5
100.0	53830.	-60.3			276.9	31.2
80.0	58427.	-60.7			253.2	21.2
70.0	61134.	-62.5			262.3	19.4
60.0	64286.	-59.9			231.1	3.0
50.0	68057.	-55.9				

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 4051.3 FEET MSL
11 MAY 61 1200 HRS MDT
ASCENSION NO. 80

SIGNIFICANT LEVEL DATA
1310180000U
LC-37

TABLE 12

GEODETIC COORDINATES,
32°40'17" LAT DEG
106°31'23" LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE METERS MSL	TEMPERATURE DEGREES CENTIGRADE	REL.HUM. PERCENT
75.6	4051.4	26.6	3.8
72.4	4156.9	24.5	1.4
85.0	4900.0	21.5	.7
832.2	5500.2	20.2	-4
112.6	6172.0	18.0	-2.3
793.2	6848.6	16.6	-0.4
763.2	7919.1	13.1	-4.1
700.0	10277.4	6.5	-b.6
659.0	11890.3	1.5	-8.6
639.8	12670.8	-2	-13.1
630.8	13043.1	-9	-14.1
613.0	13793.1	-1.7	-16.2
568.8	15734.0	-6.3	-23.0
560.4	16117.2	-5.4	-24.8
552.0	16506.7	-5.6	-25.5
518.0	18133.8	-9.4	-29.2
500.0	19028.7	-11.7	-30.1
454.0	21429.6	-18.3	-32.6
438.6	22272.9	-20.9	-34.2
430.6	22719.5	-22.0	-35.5
416.0	23551.6	-23.7	-36.1
400.0	24490.5	-25.9	-40.4
345.6	27916.3	-34.2	-46.6
318.8	29759.7	-38.4	-49.4
300.0	31123.9	-42.4	30.0

STATION ALTITUDE 4091.37 FEET MSL
11 MAY 81 200 HRS D.T.
ASCENSION NO. 80

UPPER AIR DATA
1310180060
LC-37

TABLE 13

GEODETIC COORDINATES
32°40'17.5" LAT DEG
106°31'23.2" LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE DEGREES CENTIGRADE	AIR DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/SECURE METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (T)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
4051.4	875.6	26.6	1.8	23.0	1014.1	675.7	180.0	6.0	1.000260
4500.0	862.0	23.1	1.1	23.4	1010.6	671.5	186.6	7.0	1.000254
5000.0	847.0	21.3	.5	25.0	999.3	669.4	191.9	8.2	1.000250
5500.0	832.2	20.2	-.4	25.0	985.6	668.1	195.9	9.5	1.000246
6000.0	817.6	18.6	-.1	25.0	973.9	666.2	200.2	10.2	1.000241
6500.0	803.1	17.3	-.6	22.6	961.2	664.7	208.5	9.6	1.000234
7000.0	789.9	16.1	-.5	21.4	948.3	663.2	217.8	9.3	1.000229
7500.0	774.8	14.5	-.4	26.1	936.5	661.4	232.3	9.7	1.000228
8000.0	760.9	12.9	-.4	30.1	924.7	659.6	245.6	11.0	1.000227
8500.0	747.1	11.5	-.5	30.7	912.5	657.9	253.7	12.9	1.000223
9000.0	734.6	10.1	-.6	31.4	900.5	656.3	255.1	15.5	1.000219
9500.0	720.2	8.7	-.7	32.0	886.6	654.0	255.7	17.8	1.000215
10000.0	707.2	7.3	-.8	32.6	876.9	653.0	255.0	19.3	1.000211
10500.0	694.2	5.8	-.8	34.9	865.4	651.2	255.1	20.7	1.000208
11000.0	681.3	4.3	-.8	39.3	854.1	649.5	260.9	20.8	1.000206
11500.0	668.7	2.7	-.8	43.6	842.9	647.6	266.5	21.1	1.000204
12000.0	656.3	1.3	-.9	45.6	831.7	645.9	273.7	22.3	1.000201
12500.0	644.0	.2	-12.1	39.2	819.6	644.5	276.1	24.6	1.000195
13000.0	631.8	-.8	-13.9	36.1	807.2	643.3	275.6	27.6	1.000190
13500.0	619.9	-.1	-15.3	33.6	793.7	642.6	275.9	30.6	1.000186
14000.0	608.1	-2.2	-16.9	31.3	781.1	641.6	276.6	32.2	1.000182
14500.0	596.5	-3.4	-18.6	29.5	769.6	640.2	275.0	32.0	1.000179
15000.0	585.1	-4.6	-20.4	27.6	758.3	638.7	271.0	31.5	1.000175
15500.0	574.0	-5.7	-22.2	25.8	747.2	637.3	266.9	33.2	1.000172
16000.0	563.0	-5.7	-24.2	21.5	732.8	637.4	264.8	33.9	1.000168
16500.0	552.1	-5.6	-25.5	19.0	718.5	637.4	263.4	34.0	1.000164
17000.0	541.5	-6.8	-26.6	18.7	707.7	636.0	262.8	33.2	1.000161
17500.0	531.0	-7.9	-27.8	18.4	697.1	634.6	263.2	33.3	1.000159
18000.0	520.7	-9.1	-28.9	18.1	686.7	633.2	263.7	33.5	1.000156
18500.0	510.6	-10.3	-29.6	18.8	676.5	631.7	264.4	33.6	1.000154
19000.0	500.6	-11.6	-30.0	19.9	666.5	630.1	265.2	33.7	1.000151
19500.0	490.6	-13.0	-30.5	21.4	656.7	628.5	265.6	35.0	1.000149
20000.0	480.9	-14.4	-31.0	22.8	647.1	626.8	265.8	36.2	1.000147
20500.0	471.3	-15.7	-31.5	24.3	637.6	625.1	265.5	37.3	1.000145
21000.0	461.9	-17.1	-32.1	25.7	628.3	623.5	265.0	38.0	1.000142
21500.0	452.7	-18.5	-32.7	27.2	619.1	621.8	264.7	37.8	1.000140
22000.0	443.5	-20.1	-33.7	28.4	610.3	619.9	265.3	39.1	1.000138
22500.0	434.5	-21.5	-34.8	28.5	601.2	618.1	267.6	38.3	1.000136
23000.0	425.6	-22.6	-36.4	27.0	591.6	616.8	269.7	34.8	1.000133
23500.0	416.9	-23.6	-37.9	25.2	581.8	615.5	271.0	34.1	1.000131

STATION ALTITUDE 4051.37 FEET MSL
 11 MAY 81 1200 hrs WDT
 ASCENSION NO. 89

UPPER AIR DATA
 1310180080
 LC-37

GEOGRAPHIC COORDINATES,
 32.40175 LAT DEG
 106.31232 LONG DEG

TABLE 13 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(STN)	INFLUX OF REFRACTION
24000.0	400.3	-24.8	-39.2	24.5	572.5	614.1	270.1	34.1
24500.0	399.8	-25.9	-40.4	24.0	563.3	612.6	270.1	34.1
25000.0	391.4	-27.1	-41.3	24.4	554.1	611.1	270.1	34.1
25500.0	383.1	-28.3	-42.2	24.9	545.1	609.6	269.9	34.5
26000.0	375.0	-29.6	-43.1	25.3	536.3	608.1	270.0	33.4
26500.0	367.1	-30.8	-44.0	25.8	527.6	606.0	270.5	30.3
27000.0	359.4	-32.0	-44.9	26.2	519.1	605.0	272.0	24.2
27500.0	351.8	-33.2	-45.8	26.6	510.7	603.5	269.5	35.8
28000.0	344.3	-34.4	-46.7	27.1	502.4	602.0	267.4	54.8
28500.0	336.9	-35.5	-47.4	27.9	493.8	600.6	266.1	69.7
29000.0	329.6	-36.7	-48.2	28.8	485.5	599.1	265.5	58.2
29500.0	322.4	-37.8	-49.0	29.6	477.3	597.7	265.1	52.9
30000.0	315.4	-39.1	-51.7	24.7**	469.4	596.0	264.8	51.7
30500.0	308.5	-40.6	-57.7	13.7**	462.0	594.1		1.0000105
31000.0	301.7	-42.0	-70.6	2.7**	454.7	592.3		1.0000101

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 4051.37 FFF1 MSL
11 MAY 81 120P MRS MDI
ASCENSION NO. 80

MATERIALY LEVELS
131010(000)
LC-37

GEODETIC COORDINATE,
32°40'17.5" LAT LEG
106°51'23.2" LON LEG

TABLE 14

PRESSURE MILLIBARS	GOPOTENTIAL FEET	TEMPERATURE DEGREES CENTIGRADE	AIR DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	WIND DATA DIRECTION DEGREES(IN)	WIND DATA SPEED KNOTS
850.0	4896.	21.5	.7	25*	191.0	0.0
800.0	6605.	17.1	-4.9	22.	210.4	9.5
750.0	8502.	11.8	-5.0	31.	253.5	12.4
700.0	10267.	6.5	-8.6	33.	254.7	20.2
650.0	12241.	.7	-10.6	42.	276.6	23.2
600.0	14335.	-3.0	-18.1	30.	276.2	32.4
550.0	16579.	-5.8	-25.7	19.	263.5	33.9
500.0	19002.	-11.7	-30.1	20.	265.2	33.8
450.0	21614.	-19.0	-33.0	28.	264.7	37.7
400.0	24450.	-25.9	-40.4	24.	270.1	34.1
350.0	27574.	-33.5	-46.0	27.	268.9	40.2
300.0	31062.	-42.4				

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 4051.37 FEET MSL
11 MAY 81 1300 HRS NDT
ASCENSION NO. 81

SIGNIFICANT LEVEL DATA
13101800081
LC-37
TABLE 15

GEODETIC COORDINATES
32°40'17.5 LAT UTM
106°31'32 LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT
874.6	4051.4	28.4	14.0
869.6	4217.3	25.6	17.0
850.0	4871.7	23.5	20.0
776.2	7437.0	16.1	20.0
748.6	8441.0	13.0	21.0
721.4	9456.5	10.1	24.0
700.0	10275.6	8.0	24.0
686.2	10813.3	6.1	26.0
659.8	11462.9	2.8	30.0
617.0	13630.9	-2.1	40.0
600.0	14358.1	-4.2	43.0
583.4	15083.1	-5.9	38.0
566.8	15825.9	-6.4	26.0
550.4	16578.6	-7.7	20.0
518.4	18102.5	-10.5	18.0
500.0	19013.4	-12.6	19.0
479.2	20074.4	-15.4	19.0
434.4	22482.1	-21.8	27.0
412.8	23709.8	-25.0	27.0
400.0	24460.6	-26.7	25.0
377.8	25807.9	-30.0	25.0
331.2	28845.0	-37.7	29.0
305.6	30651.6	-42.8	
300.0	31061.9	-43.4	

STATION ALTITUDE 4051.37 FEET MSL
 11 MAY 81 1300 HRS MET
 ASCENSION NO. 81

UPPER AIR DATA
 1310160081
 LC-37

ATLANTIC COORDINATES
 42°40'17" LAT DEG
 116°51'23" LON DEG

TABLE 16

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	DEWPOINT PERCENT	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (TN)	WIND DATA DEGREES (TN)	INDEX OF REFRACTION
4051.4	874.6	28.4	-1.6	14.0	1008.0	677.3	260.0	9.9	1.0000247
4500.0	861.1	24.7	-1.0	18.3	1004.6	673.2	268.1	11.5	1.0000248
5000.0	846.1	23.1	-1.0	20.0	992.4	671.4	274.8	13.5	1.0000246
5500.0	831.3	21.7	-2.2	20.0	979.9	669.7	279.7	15.7	1.0000241
6000.0	816.7	20.2	-3.4	20.0	967.6	668.0	281.5	16.9	1.0000236
6500.0	802.4	18.8	-4.6	20.0	955.5	666.3	280.2	16.6	1.0000232
7000.0	788.3	17.4	-5.8	20.0	943.5	664.6	278.7	16.2	1.0000228
7500.0	774.4	15.9	-7.0	20.1	931.7	662.9	273.0	14.6	1.0000224
8000.0	760.6	14.4	-7.9	20.6	920.0	661.1	267.2	13.3	1.0000220
8500.0	747.0	12.8	-8.8	21.2	908.5	659.3	259.5	12.7	1.0000217
9000.0	733.5	11.4	-9.2	22.7	896.6	657.7	254.5	13.3	1.0000214
9500.0	720.2	10.0	-9.6	24.0	884.8	656.0	252.0	15.0	1.0000211
10000.0	707.1	8.7	-10.7	24.0	872.7	654.5	251.3	17.1	1.0000207
10500.0	694.2	7.2	-11.6	24.8	861.4	652.8	249.8	18.8	1.0000204
11000.0	681.4	5.5	-12.1	26.7	850.7	650.8	253.4	20.3	1.0000201
11500.0	668.8	3.9	-12.6	28.6	839.7	648.9	259.5	19.7	1.0000199
12000.0	656.4	2.4	-13.0	30.8	828.7	647.1	263.4	14.6	1.0000196
12500.0	644.0	1.0	-13.2	33.6	817.2	645.5	263.5	11.1	1.0000193
13000.0	631.9	-4	-13.4	36.4	806.0	643.9	259.6	13.8	1.0000191
13500.0	620.1	-1.7	-13.8	39.3	794.9	642.2	255.9	22.2	1.0000188
14000.0	608.3	-3.2	-14.4	41.5	783.9	640.5	255.9	26.9	1.0000185
14500.0	596.7	-4.5	-15.5	42.0	773.0	638.9	261.5	30.2	1.0000182
15000.0	585.3	-5.7	-17.5	38.6	761.6	637.4	270.1	32.6	1.0000178
15500.0	574.0	-6.2	-20.4	31.3	748.4	636.8	278.0	33.6	1.0000173
16000.0	563.0	-6.7	-23.6	24.6	735.6	636.1	281.4	34.4	1.0000169
16500.0	552.1	-7.6	-26.2	20.6	723.8	635.0	281.3	34.6	1.0000165
17000.0	541.4	-8.5	-27.6	19.4	712.2	633.9	280.1	34.1	1.0000162
17500.0	530.8	-9.4	-28.8	18.8	700.8	632.8	277.6	34.1	1.0000159
18000.0	520.5	-10.3	-29.9	18.1	689.6	631.7	274.3	35.4	1.0000156
18500.0	510.3	-11.4	-30.7	18.4	679.0	630.4	271.7	35.4	1.0000154
19000.0	500.3	-12.6	-31.3	19.0	668.6	629.0	269.7	34.1	1.0000151
19500.0	490.4	-13.9	-32.4	19.0	658.7	627.4	268.7	35.2	1.0000149
20000.0	480.6	-15.2	-33.5	19.0	648.9	625.8	269.4	35.3	1.0000147
20500.0	471.0	-16.5	-33.9	20.4	639.2	624.2	270.1	36.4	1.0000144
21000.0	461.5	-17.9	-34.3	22.1	629.5	622.5	271.0	35.1	1.0000142
21500.0	452.1	-19.2	-34.7	23.7	620.1	620.9	271.3	35.0	1.0000140
22000.0	443.0	-20.5	-35.2	25.4	610.7	619.3	270.9	35.1	1.0000138
22500.0	434.1	-21.8	-35.7	27.0	601.6	617.7	270.6	35.4	1.0000136
23000.0	425.2	-23.1	-36.9	27.0	592.3	616.0	270.6	35.7	1.0000133
23500.0	416.4	-24.5	-38.0	27.0	583.2	614.4	271.1	36.0	1.0000131

STATION ALTITUDE 4051.37 FEET MSL
 11 MAY 81 1300 HRS MDT
 ASCENSION NO. 81

UPPER AIR DATA
 13101800081
 LC-37

TABLE 16 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREE CENTIGRADE	REL.HUM. PERCENT	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TRUE)	WIND DATA SPEED (KNOTS)	INDEX OF REFRACTION
24000.0	407.8	-25.7	39.3	573.9	612.9	271.5	36.4
24500.0	399.3	-26.8	40.8	564.6	611.5	269.9	38.4
25000.0	391.0	-28.0	41.9	555.5	610.0	268.7	40.9
25500.0	382.8	-29.2	42.9	546.6	608.5	267.8	44.1
26000.0	374.7	-30.5	43.9	537.8	606.9	267.5	44.7
26500.0	366.6	-31.8	44.8	529.0	605.3	267.4	44.5
27000.0	358.8	-33.0	45.7	520.4	603.7	267.3	43.8
27500.0	351.1	-34.3	46.6	512.2	602.1	267.7	40.6
28000.0	343.6	-35.6	47.5	503.7	600.5	269.9	50.9
28500.0	336.2	-36.8	48.4	495.5	598.9	270.9	29.1
29000.0	328.9	-38.1	50.2	487.5	597.2	268.8	40.0
29500.0	321.7	-39.5	54.4	18.5**	479.7	595.4	1.000107
30000.0	314.6	-41.0	60.1	10.5**	472.0	593.6	1.000105
30500.0	307.7	-42.4	71.7	2.4**	464.4	591.8	1.000103
31000.0	300.8	-43.3			456.0	590.6	1.000102

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 4051.37 FEET MSL
11 MAY 81 1300 HRS MDT
ASCENSION NO. 81

MANDATORY LEVELS
1310180081
LC-37
TABLE 17

GEODETIC COORDINATES
32°40'17.5" LAT DEG
106°31'23.2" LON DEG

PRESSURE GROUP POTENTIAL MILLIBARS	FEET	TEMPERATURE DEGREES	REL.HUM. PERCENT	WIND DATA			
				AIR DEGREES	DFWPOINI CENTIGRADE	DIRECTION DEGREES (ITN)	SPEED KNOTS
850.0	4868.	23.5	-7.	20.		273.2	13.0
800.0	6586.	18.6	-4.8	20.		280.0	16.6
750.0	8382.	13.2	-8.7	21.		261.3	12.8
700.0	10265.	8.0	-11.3	24.		250.5	18.0
650.0	12247.	1.7	-13.1	32.		264.6	10.9
600.0	14341.	-4.2	-14.9	43.		258.7	29.5
550.0	16576.	-7.7	-26.7	20.		281.1	34.6
500.0	18987.	-12.6	-31.4	19.		269.7	34.5
450.0	21590.	-19.5	-34.8	24.		271.2	35.0
400.0	24420.	-26.7	-40.7	25.		270.1	38.2
350.0	27533.	-34.5	-46.7	27.		267.9	39.2
300.0	31000.	-43.4					

